

WH Constructions in English\*

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My purpose here is to survey the major facts about English clausal constructions involving the 'wh' words of the language, listed in (1). My intention is to describe the range of facts that an adequate syntactic description of English (and its accompanying semantics) must cover. This is a reference work; I am grinding no theoretical axes.

- (1) WH: how, what, when, (whence), where, whether, which, (whither), who, whom, whose, why

WHC: a clause containing WH, such as *where she went, in whose hat they laid the eggs, from the top of which it alighted*

I deliberately exclude from consideration a large collection of idiomatic constructions involving WH, such as those in (2). The external distribution of these constructions might be of interest, but I assume that in the present context their internal syntax is idiosyncratic, so that generalizations about English cannot be expected to cover them.

- (2) or WH: Did you sneeze, or what?  
what with: What with all the noise, I never could concentrate.  
what for: What did you do that for?  
how come: How come it exploded?  
who BE who: Everybody who was who was there.  
why not: Why not paint your house purple?  
say when: She started pouring, and told me to say when.

The literature, both descriptive and theoretical, on WHCs in English is enormous. I do not pretend to be surveying this literature here. Much can be learned from the compendious reference grammars of English. In addition, dissertations on particular types of WHCs—for instance, Baker (1968), Elliott (1971), Higgins (1976), Hirschbühler (1979), and Delahunty (1982)—survey the literature up to the time of their writing and so can be consulted with bibliographic profit.

The constructions I will be concerned with are named and exemplified in the outline below; in each case the WHC is enclosed in square brackets.

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**Copular clauses**

CL - Cleft sentence: *It was Kim [who stole the tarts].*

PC - Pseudocleft sentence: *[What we saw] was a dog.*

(Both constructions have the property of connectedness: the clefted XP in the construction is subject to the syntactic conditions appropriate to the slot filled by WH in WHC, so that the examples above share syntactic conditions with *Kim stole the tarts* and *We saw a dog*. Connectedness is particularly striking with respect to reflexive pronouns, as in *It was themselves that Sandy and Kim saw* and *What Sandy and Kim saw was themselves*.)

## Relatives

### Nominal modifiers

RR - Restrictive relative: *The penguin [which we discovered on the porch] was obviously lost.*

AR - Appositive relative: *This penguin, [which we discovered on the porch], was obviously lost.*

(Note the distinction between these constructions and amount relatives (Carlson 1977), as in *Every lion [there is] eats meat*. Amount relatives share many properties of comparatives, including the rejection of WH: \**Every lion which there is eats meat*. They do permit relativizing *that*, however: *Every lion that there is eats meat*. As Carlson points out, these properties are shared by superlative relatives: *He put the best/only players [(that/\*which) he could] into the game*.)

### Clause modifiers

CM - Concessive modifier: [*Whatever they did*], *Robin remained apathetic*.

### Noun phrases

FR - Free relative: [*What we found*] *bit me on the leg*.

CR - Concessive free relative: [*Whatever they did*] *made Robin unhappy*.

## Interrogatives

MQ - Main question: [*What do you see*]?

XQ - Echo question: [*You think you saw WHAT*]?

(This construction, unlike all the others, does not require an introducer WH phrase, that is, a WH phrase at the beginning of WHC. This difference makes it so hard to compare usefully to the other constructions that I have left it out of the table below.)

EQ - Embedded question: *I wonder [what you saw]*.

## Exclamations

ME - Main exclamation: [*What a good dog you are*]!

EE - Embedded exclamation: *It amazes me* [*what a good dog you are*].

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I now enumerate a series of tests that distinguish among the various WH constructions just listed. It might well be that a number of the properties I refer to here can be deduced from the semantic content or the pragmatic function of the constructions involved, though I have tried to emphasize properties that are to some degree arbitrary from the point of view of semantics and pragmatics. Note that asterisks are assigned to particular sentences as exemplars of the constructions named; a number of these unacceptable strings are in fact acceptable as exemplars of other constructions (complements rather than relatives, for instance).

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0. Tests distinguishing main clause phenomena from embedded clause phenomena: MQ is distinguished from EQ, and ME from EE, in many of the same ways that main declaratives are distinguished from embedded declaratives. In particular, there are constructions limited to main clauses, such as (for many speakers) the interrogative introducer *how come* and the interrogative tag *or WH*:

- + How come you're making spaghetti? [MQ]
- \*How come you're making spaghetti baffles me. [EQ]
  
- + Are you leaving now, or when? [MQ]
- \*I asked whether she was leaving then, or when. [EQ]

1. Tests favoring interrogatives of one sort or another

- 1A. Permits *what* as introducer:

- + What did Herman notice? [MQ]
- I wonder what Herman noticed. [EQ]
- What Herman noticed! [ME]
- It amazes me what Herman noticed. [EE]
- Whatever Herman noticed, what I saw was an alligator. [CM]
- Whatever Herman notices distresses him. [CR]
- What Herman noticed was an ivory spoonbill. [PC]
- What Herman noticed just bit him. [FR]
- \*The bird, what Herman just noticed, is an ivory spoonbill. [AR]
- \*The thing what Herman noticed was an ivory spoonbill. [RR]
- \*It was an ivory spoonbill what Herman noticed. [CL]

(Only appositive and restrictive relative clauses and clefts reject *what*.)

1B. Permits *how* as introducer:

- + How do I get the frambis in? [MQ]  
I realized how to get the frambis in. [EQ]  
How they dance! [ME]  
I'm astonished how they dance. [EE]  
However they dance, I get nervous. [CM]  
However they dance is peculiar. [CR]  
How to do it is with a pick-axe. [PC]  
How they do it improves on my method. [FR]
- \*The manner, how she did it, was ingenious. [AR]  
\*The way how she did it was with a samurai sword. [RR]  
\*It was with a pick-axe how she did it. [CL]

(As in 1A.)

1C. Permits *WH+else* as introducer:

- + Where else did he go? [MQ]  
I can't imagine where else he went. [EQ]  
What else they noticed! [ME]  
It's scandalous what else they noticed. [EE]  
Wherever else he went, he saw herds of elk. [CM]  
Whatever else he saw must have bothered him. [CR]  
What else he saw was a crested grebe. [PC]
- \*What else she had in her hand gave off the scent of amber. [FR]  
\*The cat, which else was chasing birds, jumped into the air. [AR]  
\*The bird which else he saw was a bald eagle. [RR]  
\*It was an ivory spoonbill which else Herman noticed. [CL]

(Like 1A and 1B, except that free relatives are also out.)

1D. Permits *which/what+N* as introducer:

- + What/Which lamp would you like? [MQ]  
I wonder what/which lamp you'd like. [EQ]  
What/Which lamp you picked out! [ME]  
I'm astonished what/which lamp you picked out. [EE]  
Whatever/Whichever lamp you choose, I'll be nasty. [CM]  
Whatever/Whichever lamp you chose is on the truck now. [CR]  
?The eagle, which bird Herman just noticed, is alarmed. [AR]
- \*What/\*Which bird Herman noticed was an ivory spoonbill. [PC]  
\*What/\*Which stone he had in his hand sparkled. [FR]  
\*The eagle which bird Herman just noticed will attack him. [RR]  
\*It was an ivory spoonbill which bird Herman noticed. [CL]

(Yet another pattern, with restrictive relatives, pseudoclefts, free relatives, and clefts out.)

1E. Permits multiple *WH*:

- + Who went where? [MQ]  
I know who went where. [EQ]  
Who went where that night! [ME]  
It's incredible who went where that night. [EE]

- Whoever went wherever that night, the party went on. [CM]
- What she put where was the carving knife on the sideboard. [PC]
- \*Whatever she put wherever broke her toes. [CR]
- \*The knights, who went where, were sentenced to death. [AR]
- \*The knights who went where were sentenced to death. [RR]
- \*It was the carving knife on the sideboard which she put where.  
CL]

(Still another pattern, in which concessive, appositive, and restrictive relatives pattern with clefts.)

1F. May contain CL:

- + Who was it who ate the tarts? [MQ]
- Who it was who ate the tarts is a mystery. [EQ]
- What it was they had in their hands! [ME]
- It astonished me what it was they had in their hands. [EE]
- Whoever it was that ate the tarts, they're in bad trouble. [CM]
- Whatever it was that they had in their hands sparkled. [CR]
- What it was that they had in their hands was white sand. [PC]
- \*What it was that they had in their hands sparkled. [FR]
- \*Kim, who it was that ate the tarts, is horribly sick. [AR]
- \*The person who it was that ate the tarts is in bad trouble. [RR]
- \*It was Robin who it was that ate the tarts. [CL]

(Like 1A and 1B.)

1G. WH may have modifying relative clause:

- + Who that/who likes kumquats will be there? [MQ]
- I wonder who that/who likes kumquats will come to the party.  
[EQ]
- Who that/who is famous came to the party! [ME]
- It's amazing who that/who is famous came to the party. [EE]
- ?Whoever that/who is at the party asks questions, keep silent.  
[CM]
- ?Whoever that/who was there ate the kumquats will be punished.  
[CR]
- \*What that/which I saw there was on the table was a copper box.  
[PC]
- \*What that/which I saw there was on the table sparkled nicely.  
[FR]
- \*Robin, who that/who liked kumquats can speak Spanish, was  
there. [AR]
- \*The people who that/who liked kumquats came there were few. [RR]
- \*It was Robin who that/who liked kumquats could speak Spanish.  
[CL]

(Yet another pattern, uniting interrogatives, exclamations, and concessives.)

1H. Permits WH+expletive (*the hell, on earth, etc.*) as introducer:

- + Who the hell was there? [MQ]  
I don't know who the hell put water in my gas tank. [EQ]  
Whoever the hell comes, we've got to finish the job. [CM]  
Whoever the hell did it will have to pay. [CR]
- \*What the hell they put water in! [ME]  
\*It amazed me who the hell put water in my gas tank. [EE]  
\*What the hell he finished was his thesis. [PC]  
\*What the hell she had in her hand sparkled. [FR]  
\*Sandy, who the hell just arrived, can tell you. [AR]  
\*Any person who the hell has the experience can tell you. [RR]  
\*It was Sandy who the hell we noticed. [CL]

(A quite different pattern, with everything out except interrogatives and concessives.)

1I. Permits negative polarity items, especially unstressed *any*-words:

- + Who saw anything? [MQ]  
I wonder whether anyone saw anything. [EQ]  
Whoever sees anyone should shout. [CR]  
Whoever sees anything, I'm still checking for myself. [CM]
- \*What anyone saw! [ME]  
\*It's astonishing what anyone saw. [EE]  
\*What anyone saw was a unicorn. [PC]  
\*What anyone had in their hands sparkled. [FR]  
\*The diamonds, which anyone had in their hands, sparkled. [AR]  
\*The people who saw anyone shouted. [RR]  
\*It was an ivory spoonbill which anyone saw. [CL]

(Like 1H.)

1J. Has grammatically singular subjects *who/what/which*:

- + Who was/\*were at the party? [MQ]  
I wonder what is/\*are exploding. [EQ]  
Who has/\*have the answer! [ME]  
It's astonishing who has/\*have the answer. [EE]  
Whoever is/\*are there, just act cool. [CM]  
Whoever was/\*were there was acting silly. [CR]  
What was/\*were in the rubbish was chicken bones. [PC]  
What was/\*were in the rubbish smelled awful. [FR]
- Those things, which \*is/are exploding, frighten me. [AR]  
The people who \*was/were at the party were boring. [RR]  
It was several boys who \*was/were harrassing the cat. [CL]

(Like 1A and 1B.)

1K. Shows inversion:

- + What does she do for a living? [MQ]
- \*I know what does she do for a living. [EQ]  
\*What she does for a living! [ME]

(Of the constructions considered here, only MQ permits inversion.)



1L. May be infinitival:

- + What to do? [MQ]  
I don't know what to do. [EQ]
- \*What to do! [ME]  
\*It astonished them what to do. [EE]  
\*Whatever to do, I should get on with it. [CM]  
\*Whatever to do is everyone's duty. [CR]  
\*What to notice was an ivory spoonbill. [PC]  
\*The eagle, which to notice, is just overhead. [AR]  
\*The person who to see is Robin. [RR]  
\*It is Robin who to see. [CL]

(Only interrogatives, whether main or embedded, allow this infinitival construction.)

1M. Permits *WH+ever* as introducer:

- + Wherever did he go? [MQ]  
Wherever you go, I'll go with you. [CM]  
Whatever he saw distressed him. [FR = CR]
- \*I don't know wherever he went. [EQ]  
\*Wherever he went! [ME]  
\*It's astonishing wherever he went. [EE]  
\*Robin, whoever is my cousin, likes kumquats. [AR]  
\*Your friend whoever is my cousin likes kumquats. [RR]  
\*It was Robin whoever liked kumquats. [CL]  
\*Whatever Robin ate was the kumquats. [PC]

(Concessives occur with *-ever* by definition. Otherwise only main questions do so.)

1N. Permits *whether (...or not)* as introducer:

- + I wonder whether they'll come (or not). [EQ]  
Whether they come (or not), we'll be ready for them. [CM]  
Whether they come (or not) will decide the matter. [CR]
- \*Whether will they come (or not)? [MQ]  
\*Whether they will come (or not)! [ME]  
\*It's amazing whether they'll come (or not). [EE]  
\*The decision, whether we go (or not), must be made. [AR]  
\*The decision whether we go or not must be made. [RR]  
\*It was to go whether to go (or not). [CL]  
\*Whether to go (or not) was to go. [PC]

(*Whether* occurs only in concessives - where it fills the slot of the nonexistent *whenever* - and in embedded questions.)

1O. Permits *if (...or not)* as introducer:

- + I wonder if they'll come (or not). [EQ]
- \*If they come (or not), we'll be ready for them. [CM]  
\*If they come (or not) will decide the matter. [CR]

(Here *if* is like *whether*, but even more restricted.)

2. Tests favoring relatives of one sort or another

2A. Permits *that* as introducer:

- + The stone which/that he had in his hand sparkled. [RR]  
It was a stone which/that he had in his hand. [CL]
- The stone, which/\*that he had in his hand, sparkled. [AR]  
What/\*That he had in his hand was a diamond. [PC]  
What/\*That he had in his hand sparkled. [FR]

(Restrictive relatives group with clefts. Concessives, interrogatives, and exclamations all require *WH*, a familiar fact that I do not bother to illustrate here.)

2B. Permits  $\emptyset$  as introducer:

- + The stone he had in his hand sparkled. [RR]  
It was a stone he had in his hand. [CL]
- \*The stone, he had in his hand, sparkled. [AR]  
\*He had in his hand was a diamond. [PC]  
\*A diamond was he had in his hand. [PC, inverted]  
\*He had in his hand sparkled. [FR, subject]  
\*I admired he had in his hand. [FR, object]

(As in 2A.)

2C. Permits NP+PP as introducer (pied piping of complex NP):

- + Any book the labels of which are smudged may be returned. [RR]  
These books, the labels of which were smudged, were unacceptable. [AR]  
It was K-2 the top of which she climbed to. [CL]  
The top of whichever mountain she climbed to, I applaud her. [CM]  
The top of which mountain did she climb to? [MQ]  
The tops of which mountains she climbed to! [ME]  
It's astonishing the tops of which mountains she climbed to. [EE]
- \*I have visited the top of what she climbed to. [FR]  
(cf. I have visited what she climbed to the top of.)  
\*I have visited the top of whichever hill she climbed to. [CR]  
(cf. I have visited whichever hill she climbed to the top of.)  
\*The top of what she climbed to was K-2. [PC]  
(cf. What she climbed to the top of was K-2.)  
\*I realized the top of what she climbed to. [EQ]  
(cf. I realized what she climbed to the top of.)

(A pattern that occurs nowhere else in this list.)

3. Test distinguishing exclamations from interrogatives:

Permits *how very*+A and *what* a+N as introducers:



- + What a nice guy you are! [ME]  
How very intricate these facts were came as a surprise to me.  
[EE]
- \*What a nice guy are you? [MQ]  
\*How very intricate these facts were was irrelevant. [EQ]

(Other tests distinguishing ME or EE from MQ or EQ are given above in 1H, 1I, 1K-0, and 2C.)

#### 4. Tests picking out FR and PC as a set

##### 4A. Rejects personal WH (*who/whom/whose*) as introducer:

- + \*I introduced who stood first in line. [FR]  
\*Who came to the door was John the Baptist. [PC]
- It was an urchin who stood on the doorstep. [CL]  
Whose little boy are you? [MQ]  
Who was at the door was a mystery to everyone. [EQ]  
Who we saw at the beach this afternoon! [ME]  
Who came to the door surprised me. [EE]  
Whoever sees anyone should shout. [CR]  
Whoever sees anything, I'm still checking for myself. [CM]  
A person who has good health is fortunate. [RR]  
Robin, whom you met yesterday, is a sculptor. [AR]

##### 4B. Has paraphrase with definite pronoun + WH:

- + That which he had in his hand exploded.  
= What he had in his hand exploded. [FR]  
That which he had in his hand was a grenade.  
= What he had in his hand was a grenade. [PC]
- \*It was a diamond that which he had in his hand.  
cf. It was a diamond which he had in his hand. [CL]  
\*I didn't realize that which he had in his hand.  
cf. I didn't realize what he had in his hand. [EQ]

(The full range of relevant constructions is much wider, including introducers like *the one(s) who*, *the place where*, and *the person/thing that*.)

##### 4C. Rejects Prep+WH as introducer (no pied piping of PP):

- + \*From where she comes is beautiful in the spring. [FR]  
(cf. Where she comes from is beautiful in the spring.)  
\*From where she came was Albania. [PC]  
(cf. Where she came from was Albania.)
- It was Albania in which she grew up. [CL]  
From where did she come? [MQ]  
I've just learned from which city she comes. [EQ]  
Across what wide beaches we walked! [ME]  
It's astonishing across what beaches we walked. [EE]  
From whichever city they come, they're all frightening. [CM]  
Anyone from whom such news comes is welcome. [RR]  
Kim, from whom this news comes, has already gone. [AR]

5. Tests distinguishing PC from CL (beyond the observation that CL is of the form IT BE XP WHC, and PC of the form WHC BE XP):

5A. Permits inversion around BE:

- + Give Arf a bath was what we did. [PC]
- \*Kim was it who stole the tarts. [CL]
- \*Kim who stole the tarts was it. [CL]

(It is not clear whether this inversion should be described as the same construction as the inversion in *Sitting on the fence was a duck* and *Under the rock is a salamander*.)

5B. Has a predication, as well as a specificational, reading:

- + What he wants his wife to be is fascinating. [PC, ambiguous]
- It's fascinating that he wants his wife to be.  
  [CL, specificational only]

5C. Permits 'semantic' agreement of BE with XP:

- + Thousands of roses was/were what we saw. [PC, inverted]
- What we saw was/were thousands of roses. [PC]
- It was/\*were thousands of roses that we saw. [CL]

5D. Permits extensions of connectedness (see Zwicky 1984:325f):

- + What I must do is eat the duck. [PC]  
  (cf. \*I must do eat the duck.)  
  What took place then was that I ate the duck. [PC]  
  (cf. \*It took place then that I ate the duck.)  
  What I need is for someone to sing. [PC]  
  (cf. \*I need for someone to sing.)  
  What they said about Tony was that he lisped. [PC]  
  (cf. \*They said about Tony that he lisped.)
- \*It is eat the duck that I must do. [CL]  
  \*It was that I ate the duck that took place. [CL]  
  \*It is for someone to sing that I need. [CL]  
  \*It was that he lisped that they said about Tony. [CL]

(Other tests distinguishing PC from CL have been given in 1A-C, 1E, 1F, 1J, 2A-C, and 4A-C above.)

Notes

\*This note began life as a handout for a beginning syntax course in February 1974, under the title 'The Wh Squish'. It acquired its present form in April 1986. My thanks to Robert N. Kantor, who of course bears no responsibility for the formulation you see here; he thinks it's almost all semantics and pragmatics, and maybe he's right.

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